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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/740,790	12/21/2000	Hiroataka Yamaji	NEC2090-US	6402

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EXAMINER

NOLAN, DANIEL A

ART UNIT PAPER NUMBER

2654

DATE MAILED: 03/02/2004

17

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/740,790

Applicant(s)

YAMAJI, HIROTAKA

Examiner

Daniel A. Nolan

Art Unit

2654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 15 January 2004 has been entered.

Response to Amendment

3. The claims were changed as indicated and examined on the merits.

Specification

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested:

"Audio Playback/Recording Apparatus Having Multiple Decoders in ROM"

Claim Objections

5. Claim 7 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The features of the claim are the same as those features for storing *a plurality of decompression firmwares in ROM* and for *using a decompression firmware selected from among the plurality of decompression firmwares based on the attribution data* that were added by amendment for this action.

Claim Rejections - 35 USC § 103

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Ozawa et al, Sako et al, Dwyer et al & Liem et al

7. Claims 1-3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ozawa et al (Japan Patent 09-265731) in view of Sako et al (European Patent 0 762 417 A2) and further in view of Dwyer et al (U.S. Patent 6,571,211) and further in view of Liem et al ("An Embedded System Case Study: The Firm Ware Development Environment For A Multimedia Audio Processor", ACM IEEE Design Automation Conference Proceedings, March 1997).

8. Regarding claim 1, the *Speech Reproducing Device And Its Method, Speech Recording Device And Its Method, Speech Recording And Reproducing System, Speech Data Transfer Method, Information Receiving Device, And Reproducing Device* of Ozawa et al reads on the features of the *audio playback/recording apparatus* of the immediate application as follows:

- Ozawa et al (section [0048]) reads on the feature of *an audio input processing section, which receives analog audio data (line 1) and converts analog audio data to digital audio data (line 4);*
- Ozawa et al (section [0055]) reads on the feature of *a playback/recording processing section*
- Ozawa et al (section [0043]) reads on the feature of *a compression section (line 3) which compresses digital audio data output from audio input processing section and stores compressed digital audio data (section [0023] last line)*

Art Unit: 2654

- Ozawa et al (section [0013] lines 4-5) reads on the feature of *an audio output processing section, which receives decompressed digital audio data output from playback-recording processing section,*
- Ozawa et al (section [0013] lines 6-7) reads on the feature of *converts decompressed digital audio data to analog audio data, and*
- Ozawa et al (17 in drawing 5) reads on the feature of *outputs analog audio data to an output apparatus;*
- Ozawa et al (section [0017] lines 1-5) reads on the feature of *an external recording circuit section,*
- Ozawa et al (section [0046] line 6) reads on the feature of *which records compressed digital audio data stored in RAM into an external recording medium;*
- Ozawa et al (section [0055] lines 8-9) reads on the feature of *reads out compressed digital audio data from external recording medium;*
- Ozawa et al (section [0016] lines 1-3) reads on the feature of *stores readout data into RAM.*

Where Ozawa et al disclose decompression (as "elongating" in section [0017]), he mentions only the compressed input being of "*predetermined format*" and does not detail either format or means by which they are determined.

Sako et al (3 in figure 4) reads on the feature of storing *attribution data into a RAM* (page 11 line 29), and (in 202 & 306 of figures 11 & 12), Sako et al further reads on the feature of *an expansion section, which decompresses compressed digital audio data stored in RAM.*

Where the attribution data of Sako et al (illustrated by 4 & 21 in figure 6) does not indicate the type of coding method used, the voice header data record of Dwyer et al does (with 112 in figure 5) read on the feature of *indicating a type of a compression of compressed digital audio data* which would control subsequent processing (column 9 lines 37-43) *based on attribution data indicating a type of a compression of compressed digital audio data stored in RAM.*

It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Sako et al & Dwyer et al to the device/method of Ozawa et al so as to match the methods used to decode and decode the signal.

Regarding the added features of storing a *plurality of decompression firmwares in ROM* and that *by using a decompression firmware selected from among the plurality of decompression firmwares based on the attribution data*, neither Ozawa et al nor Sako et al nor Dwyer et al mention *decompression by firmware on ROM.*

Liem et al discloses designating memory into ROM for constant filter coefficients and RAM to hold intermediate data (2nd page, 3rd paragraph left column), reading on the feature of a *plurality of decompression firmwares stores in ROM* while stating that the objective is to develop CODECS for audio decompression algorithms including MPEG2, Dolby AC-3 Surround & Dolby Pro-logic (1st page, 1st paragraph, left column), reading on the feature of *using a decompression firmware selected from among the plurality of decompression firmwares based on the attribution data* (2nd paragraph of section 1 – Introduction, 1st page left column). This would have made it obvious to a person of

Art Unit: 2654

ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Liem et al to the device/method of Ozawa et al, Sako et al & Dwyer et al to handle several CODECS without having to increase the size of the device proportionately.

9. Regarding claim 2, the claim is set forth with the same limits as claim 1.

Ozawa et al (0044 lines 3-6) teaches the feature of *comprising a general-purpose interface circuit section, which* (section [0043 line 3) *transfers digital audio data to an external apparatus connected thereto from external recording medium* (section [0055] lines 8-9).

Where Ozawa et al does not mention *attribution data* Sako et al does (with 3 in figure 4) and, where the *attribution data* of Sako et al does not *indicate compression type*, Dwyer et al (112 in figure 5) reads on the feature of *indicating a type of a compression of digital audio data*. Osaka (with 22 in figure 4) reads on the feature that *receives digital audio data from external apparatus and transfers digital audio data and attribution data* that, with Dwyer et al (column 9 lines 37-43) *indicating a type of a compression of compressed digital audio data to external recording medium*.

It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Sako et al & Dwyer et al to the device/method of Ozawa et al so as to insure that decoding takes place with full knowledge of the compression method.

Art Unit: 2654

10. Regarding claim 3, the claim is set forth with the same limits as claim 2.

Ozawa et al acknowledges copyright protection (section [0033], last line) only from the aspect of recording access from a source for royalty purposes and not as a protected coding method. Sako et al (page 11 line 29) reads on the feature of a *protection processing section for performing protection processing of digital audio data*, which would have made it obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Sako et al to the device/method of Ozawa et al so as to avoid illegitimate access.

11. Regarding claim 7 as understood by the Examiner, the claim is set forth with the same limits as claim 1. The features of the claim are the same as those features addressed as added in this action (above) and the claim is rejected for the same reasons.

Ozawa et al, Sako et al, Dwyer et al, Liem et al & Milsted et al

12. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ozawa et al in view of Sako et al and further in view of Dwyer et al and further in view of Liem et al and further in view of Milsted et al (U.S. Patent 6,263,313).

13. Regarding claim 4, the claim is set forth with the same limits as claim 3.

Neither Sako et al nor Dwyer et al nor Ozawa et al nor Liem et al specify in detail the mechanism of protecting intellectual property.

- Milsted et al (301 & 303 in figure 3) reads on the features of *an encryption section which encrypts digital audio data* and of *a decryption section which decrypts encrypted digital audio data*,
- Milsted et al (306 in figure 3) reads on the feature of *an authorization data generation section, which generates authorization data (307A in figure 3) sent to external apparatus (307B in figure 3) connected to general-purpose interface circuit section (represented as 146 (E) of figure 1C)*
- Milsted et al (183 in figure 1C) reads on the feature of *an authorization data verification section, which verifies authorization data sent from external apparatus connected to general-purpose interface circuit section (as 142 (D) of figure 1C).*
- It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Milsted et al to the device/method of Ozawa et al, Sako et al, Dwyer et al & Liem et al to allow legitimate users access to the materials.

14. Regarding claim 5, the claim is set forth with the same limits as claim 3.

Neither Ozawa et al nor Sako et al nor Dwyer et al nor Liem et al specify in detail the mechanism of protecting intellectual property.

- Milsted et al (301 & 303 in figure 3) reads on the feature of *an encryption section which encrypts digital audio data*,
- Milsted et al (301 & 303 in figure 3) reads on the feature of *a decryption section which decrypts encrypted digital audio data*,

Art Unit: 2654

- Milsted et al (301 & 303 in figure 3) reads on the feature of *an authorization data writing section which writes authorization data into digital audio data transferred to external apparatus (307B in figure 3) connected to general-purpose interface circuit section (represented as 146 (E) of figure 1C).*
- Milsted et al (column 83 lines 56-59) reads on the feature of *an authorization data extraction section (function/operation performed by Secure Container processing) which extracts authorization data from digital audio data received from external apparatus connected to general-purpose interface circuit section (represented as 142 (D) of figure 1C).*

It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Milsted et al to the device/method of Ozawa et al, Sako et al, Dwyer et al & Liem et al to avoid the authorization keys from appearing as noise on playback.

Ozawa et al, Sako et al, Dwyer et al, Liem et al, Milsted et al & Van Wie et al

15. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ozawa et al in view of Sako et al and further in view of Dwyer et al and further in view of Liem et al and further in view of Milsted et al and further in view of Van Wie et al (U.S. Patent 6,240,185).

16. Regarding claim 6, the claim is set forth with the same limits as claim 1.

While Ozawa et al discloses *headers* (section [0035]) holding administration data,

Art Unit: 2654

neither Ozawa et al nor Sako et al nor Dwyer et al nor Liem et al nor Milsted et al specifically mention that such information would include *authorization*.

Van Wie et al (column 17 lines 18-19) reads on the feature that the *authorization data writing section writes authorization data within a header information section of digital audio data* which would have made it obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Van Wie et al to the device/method of Ozawa et al, Sako et al, Dwyer et al, Liem et al & Milsted et al to avoid having non-acoustic authorization and other protocols interfere with the payload signal.

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Ono (Japan Patent 09-319690 A) firmware control system delivers different codes out of ROM as required.
- Frankel et al (U.S. Patent 6,075,784 A) for communicating voice and data over a local packet network.
- Breternitz et al ("Enhanced Compression Techniques to Simplify Program Decompression and Execution", International Conference on Computer Design: VLSI in Computers and Processors, October 1997) Compressing reduces cost of embedded systems by reducing program ROM-size requirements.

18. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Daniel A. Nolan at telephone (703) 305-1368 whose normal business hours are Mon, Tue, Thu & Fri, from 7 AM to 5 PM.

If attempts to contact the examiner by telephone are unsuccessful, supervisor Richemond Dorvil can be reached at (703)305-9645.

The fax phone number for Technology Center 2600 is (703)872-9314. Label informal and draft communications as "DRAFT" or "PROPOSED", & designate formal communications as "EXPEDITED PROCEDURE". Formal response to this action may be faxed according to the above instructions,

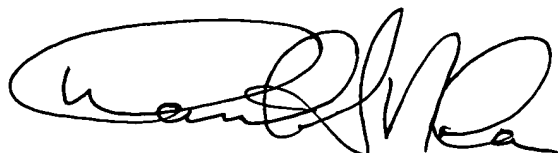
or mailed to: Mail Stop AF (or CPA, etc. – see Official Gazette, 04 November 2003)
P.O. Box 1450
Alexandria, VA 22313-1450

or hand-deliver to: Crystal Park 2,
2121 Crystal Drive, Arlington, VA,
Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to Technology Center 2600 Customer Service Office at telephone number (703) 306-0377.

Daniel A. Nolan
Examiner
Art Unit 2654

DAN/d
February 26, 2004

A handwritten signature in black ink, appearing to read 'Daniel A. Nolan', written over a horizontal line.

DANIEL NOLAN
PATENT EXAMINER